

NUMBERS & ODDITIES
a.k.a. the Spooks Newsletter
edition #120, August 2007

Editor: Ary Boender (ary@luna.nl)

NUMBERS & ODDITIES website: <http://home.ary.luna.nl>

ONLINE DATABASE: Chris Smolinski (csmolinski@erols.com)
<http://www.spynumbers.com/numbersDB/>

A couple of weeks ago we had a thread on UDXF about the Kiev Woodpecker, the old Soviet Over-The-Horizon-Radar (OTHR) that spoiled so many hours of listening. A number of very nice pictures were found on the internet and because it brought back so many memories, I decided to cover the station in this N&O edition.

★ VOICE STATIONS ★

Except for a number of E10 frequency changes and a new Cherry Ripe schedule, nothing special happened in August.

Mike and Alpha Vax supplied a couple of E03, E06, E07, E11 and S06 transcripts. Thanks gentlemen!

::: E03 LINCOLNSHIRE POACHER

ID-list 1st half of August 2007. Compiled by Alpha Vax.

UTC	Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC
1200	36305	36305	36305	36305	36305	36305	36305	1200
1300	28838	28838	28838	28838	28838	28838	28838	1300
1400	20588	96022	25431	46728	36305	71498	35174	1400
1500	35174	20588	96022	25431	46728	36305	08609	1500
1600	08609	35174	20588	96022	25431	46728	71498	1600
1700	71498	08609	35174	20588	96022	25431	36305	1700
1800	36305	71498	08609	35174	20588	96022	46728	1800
1900	46728	28838	71498	28838	35174	20588	28838	1900
2000	28838	36305	28838	08609	28838	35174	25431	2000
2100	25431	46728	36305	71498	08609	28838	96022	2100
2200	96022	25431	46728	36305	71498	08609	20588	2200

Changes:

13-08: 25431 --> 19839

ID-list 2nd half of August.

UTC	Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC
1200	27964	27964	27964	27964	27964	27964	27964	1200
1300	47492	47492	47492	47492	47492	47492	47492	1300
1400	09154	83040	19021	84894	27964	49311	29802	1400
1500	29802	09154	83040	19021	84894	27964	67010	1500
1600	67010	29802	09154	83040	19021	84894	49311	1600
1700	49311	67010	29802	09154	83040	19021	27964	1700
1800	27964	49311	67010	29802	09154	83040	84894	1800
1900	84894	47492	49311	47492	29802	09154	47492	1900
2000	47492	27964	47492	67010	47492	29802	19021	2000
2100	19021	84894	27964	49311	67010	47492	83040	2100
2200	83040	19021	84894	27964	49311	67010	09154	2200

Changes:

17-08: 47492 --> 13065

25-08: 19021 --> 81064

28-08: 13065 --> 47492

Interesting:

After two days the Id changed from 47492 to 13065 but on 28-8 they changed it back to 47492 but now with a different message at 1300 UTC. This is the second time that this was noted. It also happened in August 2006.

Alpha also supplied two transcripts.

Read the columns downward: 32798 35092 etc.

19839

32798	65289	41649	34220	69107	43795	10377	11576	13039	78488
35092	51691	75977	46694	58575	69797	81942	58172	92751	92204
08324	70308	40618	84140	36631	13359	64476	71141	70246	86991
29368	59784	45709	28889	43178	44331	21398	71463	63895	67262
73826	92156	24081	17532	75537	84749	63108	45653	20322	35948
04321	79070	12472	70710	21903	25409	00731	77741	59897	56872
59393	15476	06506	10833	54068	66263	33421	02307	15652	16134
27007	95718	97201	69465	26460	15984	90082	23599	16955	15892
48057	23656	43636	16565	67071	13993	18484	52899	39009	42209
87197	80997	09796	68457	89814	37471	63928	03114	34157	63543
53325	18284	70036	66383	57908	90058	18317	49068	59243	88699
04835	06935	78746	68439	50724	77546	10677	74214	97249	95800
85756	70890	01542	44153	66904	76068	92149	07681	56466	76706
52177	62339	75383	20448	94838	61228	03784	87669	06505	29218

27964

50597	55025	70218	57787	95072	07071	10730	69174	61091	24097
41328	27628	62761	98169	10085	72473	72834	86470	14699	19352
26465	19791	85799	62871	45503	23235	02279	06174	24433	37992
59740	59836	06681	92251	89781	11285	00991	96826	34699	21468
46410	94239	06611	24821	41708	13424	78299	32598	73352	84165
77759	46785	95375	92483	17929	39247	28916	44932	34103	79515
78456	28860	44690	30460	86041	95691	49290	05915	51118	64460
76127	88506	04627	52725	42431	92674	01914	13959	16509	63472
79112	52148	44912	34220	76990	06447	38152	62725	33854	25414
27595	33489	18474	52091	96582	80321	40755	21771	80257	13634
17701	68815	96323	85866	07876	32412	19354	19580	72871	69648
08423	59486	85203	74102	17155	01590	69038	01955	62625	69577
13576	91904	54253	35860	18590	80577	57586	57088	65990	29215
63308	39580	65508	08936	08528	89964	75232	45437	01321	44877
19256	66714	47794	07497	76582	58787	44225	52642	74782	57356
26851	36573	55089	83235	10678	49103	64084	70013	87023	22569
37851	58835	72858	25879	48681	54352	05473	81603	29387	32673
35205	87793	00832	84550	10330	69406	51647	26538	68814	59121
60305	69729	08011	13101	38256	25468	67694	94631	49921	82203
58407	70430	02513	26840	04097	50612	42559	51448	74371	05378

<<<<<<<<-0-0-0-0-0-0-0-0-0-0->>>>>>>>

::: E03a (E04)

Eddy Waters reported a new Cherry Ripe schedule at 0700 UTC on 20610 kHz. The transmission ended at 0745 UTC with the Cherry Ripe tune.

<<<<<<<<<-0-0-0-0-0-0-0-0-0-0->>>>>>>>>>

::: E06

9060 kHz, 1500 UTC, 8 and 9 August.

857	857	857	304	304	129	129				
29429	26714	89556	59116	83405	54854	74174	63796	81333	91356	
92177	78206	03503	49541	90693	74271	95137	51774	78692	92633	
74957	10551	76421	06646	70081	95819	20423	71897	37790	79344	
46737	14078	91324	85289	55324	29884	01351	26463	54388	92989	

68237	07677	56769	51793	44854	33930	08135	68839	93760	11023
92094	58570	70747	65619	13543	49439	23990	98509	44145	34376
99018	92154	76389	35766	98649	10804	09436	38030	23837	09433
74151	26869	97752	27526	72196					
000	000								

<<<<<<<<-0-0-0-0-0-0-0-0-0-0->>>>>>>>>>

::: E10

E10 specialist Alpha Vax has compiled a list of the new frequency pairs of this network. Great job, Alpha. The new pairs need to be added to the already known ones.

ART:	2456	3415	3415	4165	4165	5435	
EZI:	6840	7690					
FTJ:	2626	3360	3360	4461	4461	5339	5339 6930
JSR:	2270	3230	3230	4015	4015	5091?	5091 6912
PCD:	2515	3150	4270	5170	5170	6498	
ULX:	2743	3270	3270	4880	4880	5230	5230 6270
YHF:	no new pairs						

On August 6th HNC8 was heard at 1342 UTC on 6575 kHz.

<<<<<<<<<-0-0-0-0-0-0-0-0-0-0->>>>>>>>>>

::: E11

11486 kHz, 0715 UTC, 9 August.

```
385/32
77777 77777 53943 99942 57370 57808 59305 63091 42503 47853
90553 49615 92525 14564 54390 88912 35933 22706 20860 85567
79181 66264 07630 51706 27877 06741 26824 57542 45106 07959
77777 77777
out
```

<<<<<<<<<-0-0-0-0-0-0-0-0-0-0->>>>>>>>>>

::: S06

10170 kHz, 1900 UTC, 8 August. A very short one.

```
371 425 6
49878 03552 05475 65022 82453 14590
425 6
000000
```

* MORSE STATIONS *

$$\vdots \vdots \vdots \quad \text{MX}$$

- Cluster beacons.

D - 4557.7, 5153.7, 7038.7, 8493.7, 10871.7, 13527.7, 16331.7

P - 4557.8, 5153.8, 7038.8, 8494.8, 10871.8, 13527.8, 16331.8, 20047.8

S - 5153.9, 5153.9, 7038.9, 8494.9, 10871.9, 13527.9, 16331.9, 20047.9

C - 4558.0, 5154.0, 7039.0, 8495.0, 10872.0, 13528.0, 16332.0

A - not reported

F - 7092.0, 7093.6 heard between 5 and 11 May. Drifting Vladivostok beacon?

K - 8495.3

M - 8495.4, 10871.9 *), 13528.4, 16332.4 *) Off frequency

- Channel markers.

C - 13003

L - not reported

P - 4031, 4476, 5111, 5691

R - 4325.9, 5465.9

S - 6752

V - not reported

<<<<<<<<<-0-0-0-0-0-0-0-0-0-0->>>>>>>>>>

::: M03

M03/M03c/M03e were quite busy in August. Not all skeds seem to be regulars however, need to be confirmed. (Source: Fritz)

Day	UTC	Frequency	ID
Mon	0630	14975 kHz	886/71
	0815	9060	552/00 554/32
	0845	8800	252/00 253/37
	1130	13424	886/71
	1445	7663	270/31
	1545	9150	143/00
	1600	10429	883/10 886/71
	1800	13424	886/71
Tue	0745	10246	503/00
	1200	7637	741/00
	1545	7772	404/00 402/37

∴ M22

Notes:

26-8 no show.

<<<<<<<<-0-0-0-0-0-0-0-0-0-0->>>>>>>>>

::: M51

5181, 5184, 5257.5, 5301, 5407, 5410, 5411, 5430, 6856.6, 7536, 7712, 7716, 7880, 7937.5, 10651, 10860 kHz

<<<<<<<<<-0-0-0-0-0-0-0-0-0-0->>>>>>>>>>

::: M89

V CP17 CP17 CP17 de L9CC L9CC on 7043.0, 7057.1, 7057.5, 7062.0, 7062.7,
7063.3, 7064.0, 7065.3, 7066.4, 7067.4,
7067.8, 7068.1, 7068.8, 7070.0, 7073.7,
7074.0, 7075.0 kHz

V T3AP T3AP T3AP DE QF3K QF3K on 5727.0 kHz

M89 variant:

V Q2M Q2M DE NYZ NYZ on 6840.0 NYZ

* VARIOUS MODES *

::: X06 & M42

Monthly round-up of Department of State Communications logs.

7734 18-8 2100 Mazielka

8063	18-8 1858	Dep. of State Comms Moscow calling unlocated embassy using 6-tone alerting device (mazielka)
9923	01-8 1603	Mazielka. Sequence: 463125
10653	24-8 0750	Mazielka. Sequence: 356412
11022	18-8 1847	Dep. of State Comms Moscow calling unlocated embassy using 6-tone alerting device (mazielka)
11438	24-8 0744	Mazielka. Sequence: 532614
11450	17-8 1400	Mazielka. Sequence: 213546
12115	09-8 1010	Message for "895"
12218	09-8 0756	Mazielka. Sequence: 121212
12224	09-8 1323	Mazielka.
12224	15-8 0729	Mazielka.
12224	15-8 1544	Mazielka. Sequence: 463125
12224	16-8 1444	Mazielka. Sequence: 463125
13465	18-8 1844	Dep. of State Comms Moscow calling unlocated embassy using 6-tone alerting device (mazielka)
13854	24-8 1052	Mazielka. Sequence: 521634 (came from 14419)
14392	24-8 0750	Mazielka. Sequence: 532614
14419	24-8 1045	Mazielka. Sequence: 521634 (moved to 13854)
14530	03-8 0900	Dept of State Communications, Moscow. Mode: RTTY 50Bd/500Hz. Repeating VMGTCNJ-BH (erect & inv.) when decoded with 5-bit/ITA-2/no startbit/no stopbit.
16178.5	21-8 0537	Dept of State Communications, Moscow. Mode: Crowd-36. Offline crypto after 11177.

* MILITARY STATIONS *

::: RUSSIAN, CIS, UKRAINIAN MILITARY SSB & CW STATIONS (including M32)

In his monthly report, Fritz writes "Depending on activities certain callsigns are particularly busy for a while. The most active ones in August it were: RCIG, RMGB, RCRE, RFH61, RMDZ, RIQ97, RGZ58, RGL93, RAL59, RFH67, RBIZ, RHV42, RK081.

The VLF transmissions of VGK (General Staff) on 18.1 kHz have changed skeds again and can normally be heard at H+08, +18, +28, +38 and +58 in T-600 36/50 Bd mode with short routine messages. The long message block between H+48 and H+55 has been omitted."

Thanks for the update, Fritz.

More observations came from Jim, Trond, Peter and a number of other dxers.

18.1 and 21.1 kHz. Russian Mil.

"xxx xxx rdl rdl 94367 podarok 01 1330 355 090 1102 k"

"xxx xxx rd1 rd1 63590 podarok 01 1315 280 130 1552 k"

"xxx xxx rks rks rd1 rd1 60177 42098 acetofen 4522 0697 predmet 2941 0554 k"

"RDL RDL

11111 t7767 1t7t5 3t825 3t825

3t5t5 6??63 43632 8t998 5t192

87876 72985 9??83 63273 958t6

53317 81936 81349 21619 65??2 (? = missed due to static noise)

18239 15t32 55768 64996 62143

7?716 2t565 59t1t 93732 71242

75679 47365 81393 64744 13252

57732 24t78 72524 45547 65237

t4t17 73868 9t831 82642 95778

t7151 93944 35471 33127 89264

31935 16t36 t1618 13411 62274

51515 76958 49361 44124 18899

t8781 38778 t734? 29t51 44531

et`5464 15787 18116 757t7 15973

91254 t8162 t224? ??288 85757

76841 3t485 ????? ???? 15446

26173 81t33 65671 4t55t 33813

tt815 34383 78247 98t6t 31626

25543 51t82 76683 24t39 441t2

37488 65521 t2437 54349 54876

37414 73765 t6774 4tt19 24638

5692? ??736 3t757 3t375 161t8 K"

3261 Ukrainian Mil. IHDN radio checks with V2PR, SBWO, LBAT, B94Z.

4433 CIS Mil.

Messages "... 100176 94839 ... 11097 K. 20202 K. 32477 K. 30869 K. C K."

4478 Russian Navy. "RBE99 812 24 3 0001 812 = FOR RFJ99 = ... (5FGs w/T=0)

... = ar RBE99 k".

RFL91: "812 16 3 xxxx 812 = FOR RJD74 = ... (5FGs/T=0) ..."

4509 Russian Mil.

5358 Russian Naval vessel RMAO calling RIT

5753 Russian Navy: RIT. "= RLO RLO RLO de RIT QTC 671 34 16 0056 671 =

RADIOPROGNOZ 1608 MA... 00006 00006 50013 00102 00006 ... 00612 50013 AR"

6767 Russian Mil: NT9J radio check with MAVK and DVMP.

6873 Russian Navy Kaliningrad: RMP. Msg to REO after "486 50 21 2010 486 ="

"REO de RMP QTC 802 180 30 2017 802 = Prip Peterburg 189 1 t^k otm 79/05

2 t^k otm Ètot ... 13 t^k 7W po knige nr 764 ne dejstwuuet = K"

"XXX XXX XXX RJD85 25045 GNEZNENEC 6830 5693 (repeats) K"
"RKZ de RMP QTC 591 34 30 2214 591 = FM RJD69 = 22222 31761 ... 51250
30032 K"

6876.5 Russian Navy: RBC89 wkg with RJD99 "435 16 16 ý5ý1 435 = FOR RJD9ý
RJH74= ..."

6902 Russian Navy: RDL. Flash message.

7529 Russian Navy: RCV

7803 Russian Mil: 8PWR clg MZ8I

7959 Russian Air Force, Moscow: REA4.

8004 Russian Mil.
"3EWP de NALG QYT4 QRJ3. QSA1 QRS K. QSV K. OK QYT9 ZRR ZMV K"
"MGA8 QLY2 ZTU ZGX ZCC RPT QLY2 ZTU ZGX ZCC AR"
"MBPL de EDF8 K"
"MIX3 de HEG1 K"

8402 Russian Navy: RFH61 wkg RCV

8816 Russian Naval Aircraft: "RJF94 de 71421 QAY XLPB 1750 QBK 6000 RPT AL K"

10962 Russian Mil: "IVMN de K23D QTC 794 22 9 210_ 794 = 521 = PPPPP Z,CKV ...
RBOZB POP%O 046 AR"

12464 Russian Naval vessels
"RCV de RFH61 QYT4 QSA2 K. RCV de RFH61 OK QTY4 QSU 8612/8612 K"
"RIW de RMGB QSA? QTC K"
"RCV de RFH77 K. RCV DE RFH77 QSA1 K. RFH77 OK QAP K"

14108 Russian Mil. Radio checks and 5LG messages to 5KPQ, Z8HV, 2LIN, WEGI,
VJW2, XSW3, SN3X, XFS4, IGBK, AFTZ. "XXX XXX WEGI 52629 LIDERSKEY
5127 9278 k"

14118 Russian Mil. Radio checks and 5LG messages to ZPA8, PYK5, L4MX, M26B,
I308, KY8W, ITZ6, WT4M.

14192 Russian Mil: DPWK msg to E6XA.

* UTILITY ROUND-UP *

::: DRIFT NET BUOYS

Jim copied the following unid morse station on 9296 kHz at 1308 UTC on 3 August.
"ESAO ESAO (repeating) EEEEEEEE A0ES A0ES (repeating) AR. 722 39 03 739 8134 71
100 21 ABV 722 3903 739 813 44 71 100 21 511 3903 900 22 AR". Eastern European
military???

★ THE KIEV WOODPECKER ★

The first Over-The-Horizon-Radar (OTHR) experiments of the Soviet Union are from the late 1950s. In the early 1970's the first Duga radars appeared. (Duga is Russian for arch or bow) The Duga-1 and Duga-2 OTHRs were built near Nikolaev in Ukraine. Both were prototypes but still enormous. The Duga-2 was a huge operational plant that included 300+ transmitters, a transmitting antenna of 210 meters wide and 85 meters high and a receiving antenna of 300 meters wide and 135 meters high. A new system was built which became operational in 1976. This was the Duga-3. Unlike the first two systems, the Duga-3 used a transmitter and a receiver site separated by ca 60 km. The transmitter was located just SW of Chernobyl while the receiver was located west of Chernihiv. I could not find information about possible dismantling of the C-2 antennas. Google Earth still shows the antennas but I don't know how recent the picture is. I have made link to the map: <http://maps.google.nl/maps?ll=51.305342,30.067939&z=16&hl=nl&t=h>
A second Duga-3 installation was built near Komsomolsk-na-Amure in Siberia. The latter has been dismantled. A very nice collection of pictures of the C-2 antennas can be found on the following websites. Quite impressive I must say.

http://pripyat.com/ru/internet_photo/chernobyl_2/
<http://pix.fine.kiev.ua/egor/gallery/0000b02w>
<http://msaid.livejournal.com/65530.html>

I also found a short movie about the demolission of the Nikolaev radar.

<http://www.youtube.com/watch?v=6KDZJPvtWTQ>

My old friend V%in^ Lehtoranta wrote three articles in Finnish about the Kiev Woodpecker. The most recent article has been translated into English by Jari Perkiomaki. V%in^ kindly permitted me to publish a slightly altered version of the article in "Numbers & Oddities".

"The Woody Woodpecker Story" by V%in^ Lehtoranta, OH2LX

The Kiev Woodpecker was a high-power OTH (over-the-horizon) radar which operated in Europe during the period 1976-1986 and which used a pulse frequency of 10Hz. Now, in the 2000's OTH stations from many other countries can be heard on HF. The Woodpecker was, and will be remembered as a unique phenomenon that generated

more interference reports and speculations than any other radio emission.

The Woodpecker operations ultimately ended on 26 April 1986 at 01:23:40 when the ChNPP (Chernobyl Nuclear Power Plant) Reactor #4 (U4) ran out of control and exploded, causing one of history's worst eco-catastrophes ever. Interestingly, the disaster-related documents completely fail to mention the peculiar OTH radar operations that were practised in the vicinity of the reactor.

Russian-language discussion forums have hints to even more official opinions. There are persons in these forums that claim to have been designing the station, working there, etc. Some people have been able to take photographs of the OTHR antenna monster that is located 12 km west-northwest of the city of Chernobyl. Likewise there are photographs of surrounding buildings, housing schools, clubs, etc. All discarded and corroded, in other words, there has been no activity after the 1980s. No photographs have been found of other Ukrainian stations ñ although there are some scenery photographs with a mast in Lyubech.

Information from the C-2 Station Commander in 2001.

Mr Vladimir Musiyets, the former Commander of the Chernobyl-2 (C-2) OTH station, stated in an interview with several magazines (Fakti, Kurier Trud) that his job started in the autumn of 1976, "a few months before the station was connected to the EW radar network", and ended in August 1988 when the project was closed down. The goal was to follow the launches of the US intercontinental ballistic missiles.

Within the radius of less than 60 km from this station known as "Chernobyl-2" (C-2) two other stations were found. On satellite photographs they look very much alike. The stations are "Lyubech-1" (58 km) and "Goncharovsk-1" (54 km). In connection with Lyubech, mentions were made of the transmitter but almost nothing else. Musiyets says that C-2 operated as a receiving station. Another station, the Siberian OTHR, was beamed towards the USA and was also synched into the network.

The biggest directional HF antennas in the world.

- The antennas of the "Chernobyl-2" HF OTH radar antennas are reportedly 150 m high and 500 m long. The height of the second antenna is 90 m. The unguyed construction that still stands erect is a masterpiece of mechanical engineering. According to one estimate, which seems reliable, the total weight would be ca 14,000 tons.

- HRS 4/4/1 Dipole Curtain Antenna

The HRS 4/4/1 is one of the most common directional HF antennas in broadcasting. Many dipole curtains are also used in the Pori-Preiviiki HF site. In comparison, the HRS 4/4 is 4.5 times smaller than the HRS 12/6.

- HRS 12/6/0.5 Dipole Curtain Antenna.

"The world's biggest" directional HF broadcasting antenna was used at the VOA

Delano site in California. Built by TCI, 1987. The Delano antennas have been supported with 28 guy wires whose positions were calculated with NEC. No insulators were used in the wires due to mechanical reasons. The dipole elements consist of 6 wires. A dipole curtain consists of smaller elements that can be used in more or less directive combinations.

The Chernobyl Nuclear Power Plant after disaster.

In the morning of the nuclear power plant disaster at 11 o'clock, Musiyets and chemical expert, Major Olga Shevchenko had received an order to go to the OTHR station, 9.7 km away from the reactor. They said that, at the station, the air flow systems had been blocked-up, and computers and other electronic devices had been destroyed. After that, the C-2 did not work anymore, says Musiyets. The majority of experts thinks that the entire Soviet Woodpecker Project already reached the end of the road before the disaster. Almost no-one believes that any radiation - or any voltage or current spikes - from the broken nuclear reactor could have destroyed the Soviet electronic devices of that time. The three other Chernobyl reactors remained operational, each for whatever period of time.

Also metal dealers and thieves have been interested in perhaps the most massive antenna construction in the world. The mass of the C-2 antenna is estimated at 14,000 tons when, in comparison, the mass of a 320-meter-tall YLE/Digital TV/FM mast is 170 to 200 tons. There is no information available about possible dismantling of the C-2 antennas, although the other known Soviet OTHR antennas have been dismantled.

Footnotes.

- The Chernobyl RBMK reactors (Reaktor Bolshoy Moshchnosti Kanalniy - high power nuclear reactor) according to international reports: U1 started on May 1978 and ended November 1996; U2 was connected to the network on May 1979 and was shut down after fire in 1991; U3 started on June 1982 and ended 15 December 2000; U4 started on April 1984; the reactors U5 and U6 were under construction. In other words, during the years of 1976-1977 the mains power to the OTHR station has come from elsewhere.
- The Nadenenko dipole in its many variations is widely used by Soviet stations and widely discussed in Soviet antenna textbooks. Different kinds of cage dipoles have been in use in most countries. The broad bandwidth comes mainly from the large diameter of the element. It would be so easy to believe that the robust element material shown on the photographs of the above mentioned website has been designed for the purpose of high-power broadcasting. We can just make a guess that the entire construction of the dazzlingly wonderful C-2 is made of steel, including the antenna elements. The Finnish antenna and other experts seem to think that at least the Soviets mastered the art of mechanical engineering.
- A dipole curtain antenna, or just a "curtain", is the most commonly used HF

directional antenna in broadcasting. Broadband dipoles are placed one on the other as stacks and side by side as bays. The main antenna type even on the Pori HF site, completed in 1986, is an HRS 4/4/1 consisting of 4 horizontal and 4 vertical rows of dipoles, altogether 16 pieces. The reflector is an aperiodic, passive screen, made of wires. The wire used in Pori is Alumoweld (steel core, aluminum coating), perhaps somewhat thinner than the wires used elsewhere. In transmission lines the choice was an open-wire feedline (except on 963 kHz MF), whereas, for instance, in Wertachtal (also under the threat of demolition) a coaxial cable of 250 mm in diameter was used. I introduced the (then) world's biggest curtain in Radioamatoori 3/1995 (pp 30.31), designated as an HRS 12/6/0.5; in other words, a total of 72 dipoles (a maximum gain of 30.6dBi and a horizontal beam width of 7 degrees). The satellite photographs seem to reveal that this monster antenna at VOA Delano has been dismantled, only the masts would seem to stand erect?

In a curtain antenna, the multi element antenna array made of broadband dipoles forms a large radiating plane. With the metal screen behind the array the radiation is directed to the upper half space. With a ground plane, the radiation should take off obliquely - this is familiar to everyone. In theory, an antenna is regarded as "broadband" if the ratio of its lower and upper operating frequency is greater than 1.5:1. Building a modern curtain antenna with a frequency ratio of 2:1 so that there is no spark formation in its countless fastenings when inconceivably huge transmitting powers are used, is quite an art form.

The designation code for the larger C-2 antenna could be an HR(S) 30/10/0.2, at least with the following remarks:

- a) the parallel stacks are overlapping, and the dipole supports are fastened to the sides of the towers at regular intervals;
- b) slewing differs from that of a broadcasting antenna in a sense that a radar has continuous slewing;
- c) the dipole lengths are perhaps approximately 22 metres, the vertical element spacing is approximately 12 metres (6 metres);
- d) How is slewing arranged? The feed line would seem to come from the front side corner of the towers (thin tubes);
- e) The Russian designation for the curtain antenna is SGD, and not HRS.

★ INTELLIGENCE PROFILE: KENYA ★

::: BACKGROUND

From October 1952 to December 1959, Kenya was under a state of emergency arising from the Mau Mau rebellion against British rule. The governor requested and obtained British and African troops, including the King's African Rifles. In May 1953 the Home Guard was officially recognized as a

branch of the Security Forces. The Home Guard formed the core of the government's anti-Mau Mau strategy as it was composed of loyalist Africans, not foreign forces like the British Army and King's African Rifles. By the end of the emergency the Home Guard had killed no fewer than 4,686 Mau Mau. The Mau Mau were defeated in October 1956. Kenya became independent on 12 December 1963.

Jomo Kenyatta led Kenya from independence in 1963 until his death in 1978, when President Moi took power in a constitutional succession. The country was a de facto one-party state from 1969 until 1982 when the ruling Kenya African National Union (KANU) made itself the sole legal party in Kenya. President Moi stepped down in December 2002 following fair and peaceful elections. Mwai Kibaki assumed the presidency following a campaign centered on an anti-corruption platform.

::: GENERAL

Country name: Jamhuri y Kenya / Republic of Kenya (Kenya)
Former name : British East Africa
Capital : Nairobi

Administrative divisions:

1 area: Nairobi Area.

7 provinces: Central, Coast, Eastern, North Eastern, Nyanza, Rift Valley, Western.

::: MILITARY

Military branches:

Kenyan Army, Kenyan Navy, Kenyan Air Force.

::: SECURITY / INTELLIGENCE

Directorate of Security Intelligence (DSI)

Kenyan National Security Intelligence Service (NSIS)

Kenya Police Force including the

- Special Branch
- General Services Unit (GSU)
- Criminal Investigation Department (CID) intelligence division

* Special Branch

The Special Branch of the Kenya Police Force was mainly responsible for internal security threats following the independence of Kenya in 1963. The branch was dissolved in 1970 and its tasks were passed on to the newly formed DSI.

* Directorate of Security Intelligence (DSI)

The DSI was formed in April 1970 and was responsible for internal security and

counterintelligence. The DSI was part of the President's office and reported directly to the President. The agency was disbanded in 1998.

★ Kenyan National Security Intelligence Service (NSIS)

Formed in 1998 to replace the Directorate of Security Intelligence, better known as the Special Branch of the Kenya Police Department. NSIS's tasks include internal, external and strategic intelligence.

The agency has seven divisions:

- Internal intelligence
- External intelligence
- Information technology
- Economic affairs
- Operations
- Administration
- National Intelligence Academy

★ Kenya Police Force

The Kenya Police Force has a number of branches including the CID - Criminal Investigation Department, the GSU - General Service Unit, Railway Police and Airport Police.

The GSU is a paramilitary wing of the Kenyan Military and Kenyan Police that has various counterterrorism tasks. The organisation has a number of boats and an air wing.

The CID is responsible for investigating the more complex cases and partly for internal security tasks. The CID is divided in circa 10 departments. Amongst them are the Intelligence Division, the Anti Terrorism Unit and the Anti Narcotics Unit.

★ LOGS SECTION ★

3756	S32	CW 17-8-2007 2230 (AB) Pip
4028.0	V02a	AM 31-8-2007 Fri 0100 (Jon-FL) (2nd harmonic of 8056 AM audible too)
4141.0	M1B	CW 3-8-2007 Fri 1820 (HFD) 210-487/24=87#71, //4848
4270	E10	AM 16-8-2007 1939 (ML4) in progress
4270	E10	AM 27-8-2007 1900 (IW) PCD2

4270	E10	AM 27-8-2007 1930 (IW) PCD G16 (a new message)
4331	M22	CW 7-8-2007 2023 (ML4) 4XZ. Israeli navy
4405.0	M01	CW 21-8-2007 Tue 0038 (FMD) (0038) 287(x3) 33197 (x2) ; (0039) 111 t5tt4 ;(0039) ttt
4476	MX	CW 29-8-2007 2038 (MPJ) P: Beacon Kaliningrad
4644.0	M01	CW 21-8-2007 Tue 1625 (FMD) (i.p.) 38315(x2) 72495(x2) ...52851(x2) == (??) 22 ttt
4817	M01c	CW 20-8-2007 Mon 1805 (FN) i.p. 524 68796 call up, no msg, ends 524 524 524 000
4848.0	M1B	CW 3-8-2007 Fri 1820 (HFD) 210-487/24=87#71, //4141
4880.0	E10	USB 24-8-2007 Fri 0208 (MT2) YL, EE, phonetic alphabet. A very long string, a break or repeat at 0218.
4905	M01	CW 30-8-2007 Thu 2000 (FN) 025 ...
4910	M24	CW 7-8-2007 1811 (RiN) 784 123 00000
5074	M45	CW 28-8-2007 Tue 1702 (FN) 074 599 67
5074	M45	CW 30-8-2007 Thu 1702 (FN) 074 910 31
5111	MX	CW 18-8-2007 1635 (MPJ) Channel marker "P" Kaliningrad
5125	M01b	CW 27-8-2007 Mon 1810 (FN) 364 618 62
5181	M51	CW 18-8-2007 1640 (MPJ) French Mil. = NR 57 A 1518:46:29 1984 BT SOART YQXLB ...
5184	M51	CW 18-8-2007 1640 (MPJ) French Mil. = NR 57 A 1518:46:29 1984 BT SOART YQXLB ...
5257.5	M51	CW 3-8-2007 1423 (MPJ) French Mil. NR 05 A 07 16:18:22 1984 = IEUMM LKBAB ... ERVFL BXHGN =
5280	M01	CW 30-8-2007 Thu 1800 (FN) 025 384 30
5339	E10	AM 31-7-2007 1600 (BCI) FTJ
5410	M14	CW 21-8-2007 Tue 1907 (FN) i.p. ends == 736 736 57 57 00000
5411	M51	CW 8-8-2007 1422 (MPJ) French Mil. NR 80 A 0816:23:18 1984 = LLBCH FWUNS ... LOXOA FMBZD =
5430	M51	CW 21-8-2007 1021 (MPJ) French Mil. St Val/rien. = NR 77 A 1612:22:25 1984 BT OWLGT INLBK ...

5465.9	MX	CW 18-8-2007 1727 (MPJ) Channel marker "R" Izhevsk
5474	M45	CW 28-8-2007 Tue 1702 (FN) 074 599 67
5474	M45	CW 30-8-2007 Thu 1702 (FN) 074 910 31
5691	MX	CW 30-8-2007 1656 (MPJ) P: Beacon Kaliningrad
5727	M89	CW 5-8-2007 1830 (PP) V T3AP T3AP T3AP DE QF3K QF3K
5746.0	E03	USB 2-8-2007 Thu 2100 (GS) 71498
5759.0	M08a	MCW 7-8-2007 Tue 0900 (MS) ID 64141 42731 87664. New format
5759.0	M08a	MCW 28-8-2007 Tue 0900 (MS) (Carrier up on time, but no broadcast by 0906z. Dropped to go to work.)
5759.0	M08a	MCW 30-8-2007 Thu 0900 (MS) ID 04634 50215 68336. New format
5762	M01	CW 30-8-2007 Thu 1800 (FN) 025 384 30
5788	M12	CW 20-8-2007 Mon 2010 (FN) 463 1 8805 88
5792.0	M14	CW 29-8-2007 Wed 1905 (FMD) (i.p.) == 762 762 53 53 ttttt
5800	M08a	CW 27-8-2007 Mon 0612 (FN) ip, msg to AGNWA === mgwia ugndn ...
5800.0	M08a	MCW 10-8-2007 Fri 0600 (MS) ID 72125 05512 15378 (New format. Repeat of 0500z on 5898.)
5800.0	M08a	MCW 18-8-2007 Sat 0605 (MS) ID ----- 42427 64721 (New format. Moved to correct freq from 5898m at 0605z.)
5800.0	M08a	MCW 28-8-2007 Tue 0600 (MS) ID 84578 23872 72721. New format
5810.0	M1B	CW 10-8-2007 Fri 1515 (HFD) 158
5827	S06	AM 27-8-2007 Mon 1900 (FN) 326 00000
5883.0	V02a	AM 2-8-2007 Thu 0700 (MS) A 06111 45638 44844 (New format. YL/SS.)
5883.0	V02a	AM 6-8-2007 Mon 0700 (MS) A 04827 24213 10601 (YL/SS. New format.)
5883.0	V02a	AM 7-8-2007 Tue 0700 (MS) A 24187 32875 17631 (YL/SS. New format.)
5883.0	V02a	AM 13-8-2007 Mon 0700 in progress
5883.0	V02a	AM 14-8-2007 Tue 0700 (MS)

5883.0	V02a	A 71061 32317 55703 (YL/SS. New format.) AM 30-8-2007 Thu 0700 (MS) A 42522 74202 16224 (YL/SS. New format.)
5887	M08a	CW 27-8-2007 Mon 0624 (FN) ip, msg to NNAWG === dgwdn utatu ...
5898.0	M08a	MCW 10-8-2007 Fri 0500 (MS) ID 72125 05512 15378 . New format
5898.0	M08a	MCW 18-8-2007 Sat 0600 (MS) ID 55758 42427 64721 (New format. Wrong freq, should be on 5800z.
5898.0	V02a	AM 2-8-2007 Thu 0800 (MS) A 06111 45638 44844 (New format. YL/SS. Repeat of 0700z on 5883m.)
5898.0	V02a	AM 6-8-2007 Mon 0800 (MS) A 04827 24213 10601 (YL/SS. New format. Repeat of 0700z on 5883m.)
5898.0	V02a	AM 7-8-2007 Tue 0800 (MS) A 24187 32875 17631 (YL/SS. New format. Repeat of 0700z on 5883m.)
5898.0	V02a	AM 14-8-2007 Tue 0800 (MS) A 71061 32317 55703 (YL/SS. New format. Repeat of 0700z on 5883m.)
5898.0	V02a	AM 20-8-2007 Mon 0800 (MS) A 98841 14133 72163 (YL/SS. New format.)
5898.0	V02a	AM 30-8-2007 Thu 0800 (MS) A 42522 74202 16224 (YL/SS. New format. Repeat of 0700z on 5883m.)
5948.0	E06	AM 2-8-2007 Thu 2030 (HFD) 724 BC QRM
5953.0	G06	AM 24-8-2007 Fri 1930 (HFD) 218-896/23=19693
6575	E10	AM 6-8-2007 1342 (AVX) HNC-8
6755	S06	AM 8-8-2007 0820 (MUK) 471 283 5
6755.0	S06	AM 8-8-2007 Wed 0820 (HFD) 471
6785.0	M08	MCW 8-8-2007 Wed 0700 (AgBr) Start signal at 645Z MCW 700
6786.0	M08a	MCW 2-8-2007 Thu 0700 (MS) ID 76537 57470 16328. New format
6786.0	M08a	MCW 7-8-2007 Tue 0700 (MS) ID 64911 03314 02181. New format
6786.0	M08a	CW 8-8-2007 Wed 0900 (MS) ID 38004 78228 85358. New format
6786.0	M08a	MCW 30-8-2007 Thu 0700 (MS) ID 82283 62145 18358. New format
6802	M12	CW 20-8-2007 Mon 1950 (FN)

		463 1 8805 88
6815.0	S06	AM 29-8-2007 Wed 1210 (HFD) 481-230/5=55804
6825.0	M08	MCW 12-8-2007 Sun 0600 (AgBr) Start signal at 545Z MCW 600
6826.0	M08a	MCW 28-8-2007 Tue 0605 (MS) ID 06381 14645 67152 (New format. Late start for sked.)
6840	M89	CW 5-8-2007 1720 (PP) M89 variant. V Q2M Q2M DE NYZ NYZ
6840.0	E10	USB 5-8-2007 Sun 2040 (ZL4ND) Lady English letters with repeats
6855.0	V02a	AM 5-8-2007 Sun 2100 (MS) A 26740 25055 60623 (YL/SS. New format.)
6855.0	V02a	AM 13-8-2007 Mon 2100 (MS) A 32071 66748 67760 (YL/SS. New format.)
6855.0	V02a	AM 19-8-2007 Sun 2100 (MS) A 12828 10587 88256 (YL/SS. New format. Repeat of 2000z on 7887m.)
6855.0	V02a	AM 20-8-2007 Mon 2100 (MS) A 76101 12402 86340 (YL/SS. New format. Began brdcst at 2104z, late.)
6855.0	V02a	AM 21-8-2007 Tue 2100 (MS) (Carrier up at 2100z. Cuban radio station brdcsts for one minute 2103z-2104z.)
6855.0	V02a	AM 25-8-2007 Sat 2100 (MS) A 01720 21755 03060 (YL/SS. New format. Repeat of 2000z on 7887m.)
6855.0	V02a	AM 27-8-2007 Mon 2100 (MS) A 46342 43021 16141 (YL/SS. New format. Repeat of 2000z on 7887m.)
6855.0	V02a	AM 28-8-2007 Tue 2100 (MS) A 75415 14718 02110 (YL/SS. New format.)
6855.0	V02a	AM 29-8-2007 Wed 2100 (MS) A 72131 08165 18107 (YL/SS. New format.)
6855.0	V02a	AM 30-8-2007 Thu 2100 (MS) A 70088 30111 25506 (YL/SS. New format.)
6856.5	M51	CW 9-8-2007 1447 (MPJ) French Mil. NR 36 A 0916:45:06 1984 = TGKCC POCJUF ... CGZNG WIBUO =
6904	M12	CW 20-8-2007 Mon 1840 (FN) 257 1 7742 122
6904	M12	CW 21-8-2007 Tue 2040 (FN) 257 1 2565 53
6925	E06	AM 8-8-2007 1700 (PP) OM/EE reading msg, repeated 5Fgroups, msg ending 00000
6925	E06	AM 9-8-2007 1710 (MUK) in progress
6925	E06	AM 10-8-2007 1713 (MrDXer)

		in progress
6925	E06	AM 29-8-2007 1800 (MUK) 410 293 41 5FGs 293 41 00000
6925.0	E06	AM 2-8-2007 Thu 1800 (PoRus) "English Man" with message for "865".
6926.0	E06	USB 29-8-2007 Wed 1809 (FMD) (i.p.) 293 293 41 41 00000
6959.0	E03	USB 1-8-2007 Wed 2000 (GS) In Progress
6959.0	E03	USB 2-8-2007 Thu 2000 (GS) 06809
6959.0	E03	USB 2-8-2007 Thu 2100 (GS) 71498
6959.0	E03	USB 3-8-2007 Fri 2000 (GS) 38838
6959.0	E03	USB 3-8-2007 Fri 2100 (GS) 08609
7038.7	MX	CW 17-8-2007 2126 (AB) Cluster beacon "D"
7038.9	MX	CW 17-8-2007 2126 (AB) Cluster beacon "S"
7039	MX	CW 17-8-2007 2126 (AB) Cluster beacon "C"
7073.7	M89	CW 5-8-2007 1829 (PP) V CP17 CP17 CP17 DE L9CC L9CC
7317.0	M03	CW 7-8-2007 Tue 0915 (HFD) 227/36=77777 77777 43952
7335	S06	AM 29-8-2007 0730 (MUK) 745 216 8 55485 56672 43541 78955 59328 18515 58526 48472 216 8 00000
7335.0	S06	AM 29-8-2007 Wed 0730 (HFD) 745-216/8=55485
7337.0	E03	USB 1-8-2007 Wed 2200 (GS) In Progress
7337.0	E03	USB 2-8-2007 Thu 2200 (GS) 36305
7371	M14	CW 2-8-2007 1610 (EB) 5f tfc ended TTT TTT or 000 000
7377	E11	AM 9-8-2007 1630 (MUK) 287/00
7377	S11a	AM 30-8-2007 1030 (MUK) 214/89
7377.0	M03	CW 23-8-2007 Thu 1100 (HFD) 742/00
7439.0	M03	CW 6-8-2007 Mon 0900 (HFD) 976/00
7481.0	M08a	CW 14-8-2007 Tue 2200 (MS) ID 07823 07860 22717. New format

7481.0	M08a	CW 19-8-2007 Sun 2218 (MS) ID ----- 53446 (New format. Moved to correct freq of 7481m from 7974m.)
7481.0	M08a	CW 20-8-2007 Mon 2200 (MS) ID 45006 74857 34052 (New format. Repeat of 2100z on 7974m.)
7481.0	M08a	CW 25-8-2007 Sat 2200 (MS) ID 16341 07402 70880 (New format. QRN less this hour and signal stronger.
7526.0	M08a	CW 14-8-2007 Tue 2200 (MS) ID 80251 74384 68235. New format
7536	M51	CW 9-8-2007 1447 (MPJ) French Mil. NR 36 A 0916:45:06 1984 = TGKCC POCJUF ... CGZNG WIBU0 =
7607.0	G06	AM 4-8-2007 Sat 2200 (HFD) 843/0
7637	M03	CW 21-8-2007 Tue 1200 (FN) 741/00
7637.0	M03	CW 21-8-2007 Tue 1200 (HFD) 741/00
7654.0	XPA	AM 7-8-2007 Tue 2040 (HFD) msg
7663	M03	CW 27-8-2007 Mon 1445 (FN) 270/31 == 52769...
7663.0	M03	CW 6-8-2007 Mon 1445 (HFD) 271/00
7726.0	M08a	CW 10-8-2007 Fri 1000 (MS) ID 55091 ----- 14.83 (New format. Very weak signal.)
7734.0	X06	AM 18-8-2007 Sat 2100 (HFD)
7765.0	S06	AM 1-8-2007 Wed 1200 (HFD) 481
7765.0	S06	AM 29-8-2007 Wed 1200 (HFD) 481-230/5=55804
7772	M03	CW 21-8-2007 Tue 1545 (FN) 404/00
7772	M03	CW 28-8-2007 Tue 1545 (FN) 402/37 == 50529 73083...
7772.0	M03	CW 3-8-2007 Fri 1545 (HFD) 404/00
7822.0	M14	CW 29-8-2007 Wed 1701 (FMD) (i.p.) 762 762 53 53 == 1t593(x2)== 762 762 53 53 ttttt
7850	E06	AM 5-8-2007 1930 (MUK) 690 00000
7850	E06	AM 26-8-2007 1930 (MUK) 690 245 187
7850.0	E06	AM 5-8-2007 Sun 1930 (HFD) 690/0
7887	V02a	AM 1-8-1007 2002 (N2UHC)

		70701 46065 65786 callup & 5Fmsgs
7887.0	M08a	CW 10-8-2007 Fri 0600 (MS)
		ID 37883 64576 54423 (New format. Repeat of 0500z on 9063m.)
7887.0	M08a	CW 18-8-2007 Sat 0600 (MS)
		ID 46067 05816 83217. New format
7887.0	SK01	AM 23-8-2007 Thu 2000 (MS)
		(In PSK traffic now.)
7887.0	V02a	AM 10-8-2007 Fri 2000 (MS)
		A ----- 64302 (YL/SS. New format. Sked up late. Missed first two call
7887.0	V02a	AM 19-8-2007 Sun 2000 (MS)
		A 12828 10587 88256 (YL/SS. New format.)
7887.0	V02a	AM 22-8-2007 Wed 2000 (MS)
		A 72372 71687 02164 (YL/SS. New format.)
7887.0	V02a	AM 25-8-2007 Sat 2000 (MS)
		A 01720 21755 03060 (YL/SS. New format.)
7887.0	V02a	AM 27-8-2007 Mon 2000 (MS)
		A 46342 43021 16141 (YL/SS. New format.)
7931	M12	CW 20-8-2007 Mon 1820 (FN)
		257 1 7742 122
7931	M12	CW 21-8-2007 Tue 2020 (FN)
		257 1 2565 53
7974.0	M08a	CW 5-8-2007 Sun 2100 (MS)
		ID 02208 48044 83053. New format
7974.0	M08a	CW 7-8-2007 Tue 2100 (MS)
		ID 44548 48850 52205. New format
7974.0	M08a	CW 19-8-2007 Sun 2200 (MS)
		ID 06841 80701 53446 (New format. Broadcasting on wrong freq.
7974.0	M08a	CW 20-8-2007 Mon 2100 (MS)
		ID 45006 74857 34052. New format
7974.0	M08a	CW 25-8-2007 Sat 2100 (MS)
		(New format. QRN too heavy on weak signal for copy.)
7984	M03	CW 23-8-2007 Thu 1000 (FN)
		976/00
7984	M03	CW 30-8-2007 Thu 1000 (FN)
		976/00
8009.0	M08a	CW 20-8-2007 Mon 2300 (MS)
		ID 43971 51584 58380 (New format. Weak signal.)
8047	M12	CW 20-8-2007 Mon 1930 (FN)
		463 1 8805 88
8063	X06	AM 18-7-2007 1858 (LD0)
		Dep. of State Comms Moscow calling unlocated embassy using 6-tone alerting device
8097	M08a	CW 2-8-2007 1806 (N2UHC)
		in progress
8097.0	M08a	MCW 5-8-2007 Sun 1800 (MS)

8097.0	M08a	ID 36024 75421 68361. New format MCW 5-8-2007 Sun 1900 (MS) ID 36024 75421 68361 (New format. Repeat of 1800z on 8097m.)
8097.0	M08a	MCW 10-8-2007 Fri 1800 (MS) ID 07020 41236 65274 . New format
8097.0	M08a	MCW 10-8-2007 Fri 1900 (MS) ID 07020 41236 65274 (New format. Repeat of 1800z on 8097m.)
8097.0	M08a	MCW 12-8-2007 Sun 1800 (MS) ID 10823 37581 84804. New format
8097.0	M08a	MCW 18-8-2007 Sat 1800 (MS) ID 53384 32501 64633. New format
8097.0	M08a	MCW 18-8-2007 Sat 1900 (MS) ID 53384 32501 64633 (New format. Repeat of 1800z on 8097m.)
8097.0	M08a	MCW 19-8-2007 Sun 1800 (MS) ID ----- 72602 26360 (New format. Late start, in progress.)
8097.0	M08a	MCW 19-8-2007 Sun 1900 (MS) ID 56561 72602 26360 (New format. Repeat of 1800z on 8097m.)
8097.0	M08a	MCW 20-8-2007 Mon 1800 (MS) ID 57141 36418 01536. New format
8097.0	M08a	MCW 23-8-2007 Thu 1800 (MS) ID 18531 74182 58831. New format
8097.0	M08a	MCW 23-8-2007 Thu 1900 (MS) ID 18531 74182 58831 (New format. Repeat of 1800z on 8097m.)
8097.0	M08a	MCW 25-8-2007 Sat 1800 (MS) ID 86114 55321 34080. New format
8097.0	M08a	MCW 25-8-2007 Sat 1900 (MS) ID 86114 55321 34080 (New format. Repeat of 1800z on 8097m.)
8097.0	M08a	MCW 26-8-2007 Sun 1800 (MS) ID 50431 62541 86107. New format
8116	M12	CW 20-8-2007 Mon 1940 (FN) 124 1 8576 76
8136.0	M08a	CW 10-8-2007 Fri 1100 (MS) (IP - Missed callups. New format.)
8136.0	M08a	CW 10-8-2007 Fri 1200 (MS) ID 84863 51554 38577 (New format. This sked should be on 9152m
8140	G06	AM 7-8-2007 2012 (MUK) 308 729 141
8140	G06	AM 7-8-2007 2020 (RiN) 308 729 141 13469 etc, ends 00000
8140.0	G06	AM 6-8-2007 Mon 2000 (HFD) 308-729/141=13465

8186.0	M08a	MCW 6-8-2007 Mon 0800 (MS) ID 26341 67380 80682. New format
8186.0	M08a	MCW 15-8-2007 Wed 0800 (MS) ID 87087 56846 00336. New format
8186.0	M08a	MCW 20-8-2007 Mon 0800 (MS) ID 52621 02023 70833. New format
8186.0	M08a	MCW 29-8-2007 Wed 0800 (MS) ID 49231 60635 57407. New format
8187	M08a	CW 27-8-2007 Mon 0813 (FN) ip, msg toIWDTI === txt
8220.0	S06	AM 8-8-2007 Wed 1240 (HFD) 967-2#4/7=08109
8464.0	E03	USB 3-8-2007 Fri 1800 (GS) In Progress
8494.7	MX	CW 3-8-2007 2320 (MPJ) Cluster beacon "D"
8494.7	MX	CW 17-8-2007 0926 (QT) Cluster beacon "D"
8495	MX	CW 3-8-2007 2320 (MPJ) Cluster beacon "C"
8495.3	MX	CW 26-8-2007 1145 (EW) Cluster beacon "K" Petropavlovsk
8495.4	MX	CW 26-8-2007 1147 (EW) Cluster beacon "M" Magadan
8495.9	MX	CW 3-8-2007 2320 (MPJ) Cluster beacon "S"
8800	M03c	CW 27-8-2007 Mon 0845 (FN) 253/37 == 77777 77777 05343 ...
8800.0	M03	CW 6-8-2007 Mon 0845 (HFD) 252/00
9040.0	SK01	AM 18-8-2007 Sat 0900 (MS) (In traffic til 0904z. AM carrier down about 0908z.)
9040.0	V02a	AM 7-8-2007 Tue 0900 (MS) A 51638 37687 70610 (YL/SS. New format.)
9040.0	V02a	AM 29-8-2007 Wed 0900 (MS) A 53151 40756 63243 (YL/SS. New format.)
9060	E06	AM 7-8-2007 1500 (MUK) 857 304 129
9060	E06	AM 8-8-2007 1500 (RiN) 857 304 129 29429 etc
9060	E06	AM 9-8-2007 1500 (AVX) OM/EE 5FG calling 857 304 then into 129g msg ending 00000
9060	E06	AM 22-8-2007 Wed 1500 (FN) 857 304 129
9060	E06	AM 23-8-2007 Thu 1500 (FN) 857 304 129 rpt of 22.8. 1500z
9060	M03	CW 20-8-2007 Mon 0815 (FN) 552/00

9060	M03c	CW 27-8-2007 Mon 0815 (FN) 554/32 == 77777 77777 26302 ...
9060.0	E06	AM 8-8-2007 Wed 1500 (HFD) 857-304/129=29429
9060.0	M03	CW 6-8-2007 Mon 0815 (HFD) 552/00
9063.0	M08a	MCW 1-8-2007 Wed 0800 (MS) (New format. Too weak for copy.)
9063.0	M08a	CW 10-8-2007 Fri 0500 (MS) ID 37883 64576 54423 . New format
9063.0	M08a	MCW 15-8-2007 Wed 0800 (MS) ID 24661 21340 75375 (New format. Repeat of 0707z on 9153m.)
9063.0	M08a	MCW 22-8-2007 Wed 0800 (MS) ID ----- 67007 36224 (New format. Up late at 0803z and in progress.)
9063.0	M08a	MCW 24-8-2007 Fri 0800 (MS) ID 52580 08172 75474. New format
9063.0	M08a	MCW 29-8-2007 Wed 0900 (MS) ID 49231 60635 57407 (New format. Repeat of 0800z on 8186m.)
9110.0	S06	AM 8-8-2007 Wed 1910 (HFD) 371-425/6=49878
9130	E10	AM 5-8-2007 0326 (Vambo) EZI into messages
9130	E10	AM 9-8-2007 1806 (ML4) EE/YL
9147.0	E07	AM 2-8-2007 Thu 2030 (HFD) 716/0
9147.0	E07	AM 16-8-2007 Thu 2030 (HFD) 716/0
9147.0	E07	AM 30-8-2007 Thu 2030 (HFD) 716/0
9150	M03	CW 20-8-2007 Mon 0845 (FN) 143/00
9150.0	M03	CW 6-8-2007 Mon 1545 (HFD) 144/36=08497
9153.0	M08a	MCW 15-8-2007 Wed 0707 (MS) ID 24661 21340 75375 (New format. Late start.)
9153.0	M08a	MCW 17-8-2007 Fri 0700 (MS) ID 76281 83736 00687 (New format. Very weak signal.)
9153.0	M08a	MCW 22-8-2007 Wed 0700 (MS) ID ----- 67007 36224 (New format. Up late at 0704z and in progress.)
9160	E06	AM 5-8-2007 1830 (MUK) 690 00000
9160	E06	AM 26-8-2007 1830 (MUK) 690 245 187

9160.0	E06	AM 5-8-2007 Sun 1830 (HFD) 690/0
9176	M12	CW 20-8-2007 Mon 1800 (FN) 257 1 7742 122
9176	M12	CW 21-8-2007 Tue 2000 (FN) late start, garbled, resumed at 2004z 257 1 2565 53
9222	M21	CW 19-8-2007 0633 (PP) Russian Air Defence. Several plot strings with tracking data
9238	SK01	FSK31 25-8-2007 0900 (WES) DGI
9238	SK01	FSK31 26-8-2007 0900 (WES) DGI
9240.0	V02a	AM 10-8-2007 Fri 1000 (MS) A 09581 27831 51146 (YL/SS. New format.)
9240.0	V02a	AM 23-8-2007 Thu 1031 (MT2) "new voice"; pause every 10 th set. M8a running under until 1037.
9251	E03	USB 15-8-2007 1827 (MPJ) Linc Poacher
9251.0	E03	USB 1-8-2007 Wed 2000 (GS) In Progress
9251.0	E03	USB 1-8-2007 Wed 2100 (GS) In Progress
9251.0	E03	USB 1-8-2007 Wed 2200 (GS) In Progress
9251.0	E03	USB 2-8-2007 Thu 2000 (GS) 06809
9251.0	E03	USB 2-8-2007 Thu 2100 (GS) 71498
9251.0	E03	USB 2-8-2007 Thu 2200 (GS) 36305
9251.0	E03	USB 3-8-2007 Fri 2000 (GS) 38838
9251.0	E03	USB 3-8-2007 Fri 2100 (GS) 08609
9252.0	XPA	AM 7-8-2007 Tue 2020 (HFD) msg
9264	M12	CW 20-8-2007 Mon 1920 (FN) 124 1 8576 76
9344.0	E07	AM 6-8-2007 Mon 2000 (HFD) 213:1-519/24=30130, //12218, 11163
9344.0	E07	AM 6-8-2007 Mon 2040 (HFD) 213:1-519/24=30130
9576	E11	AM 3-8-2007 0915 (MUK) 284/00
9576	E11	AM 5-8-2007 0915 (MUK) 284/00
9576	E11	AM 17-8-2007 0915 (MUK)

		284/00
9750	M23	CW 28-8-2007 Tue 0800 (FN) 757 R10, then BC Voice of Malaysia
9750	M23	CW 30-8-2007 Thu 0800 (FN) 757 R10 EOT
9902	E11	AM 8-8-2007 1100 (MUK) 186/00
9923	X06	AM 1-8-2007 1603 (PUK) Mazielka. Sequence: 463125
10118.0	XPA	AM 14-8-2007 Tue 0600 (HFD) msg
10125	E11	AM 27-8-2007 Mon 1230 (FN) 186/00
10125.0	E11	AM 13-8-2007 Mon 1230 (HFD) 186/00
10125.0	E11	AM 20-8-2007 Mon 1230 (HFD) 186/00
10170	S06	AM 8-8-2007 1900 (MUK) 371 425 6 49878 03552 05475 65022 82453 14590 425 6 00000
10170	S06	AM 29-8-2007 1900 (MUK) 371 425 6 49878 03552 05475 65022 82453 14590 425 6 00000
10170.0	S06	AM 8-8-2007 Wed 1900 (HFD) 371-425/6=49878
10221.0	M03	CW 3-8-2007 Fri 1400 (HFD) 366/00
10343	M12	CW 20-8-2007 Mon 1900 (FN) 124 1 8576 76
10387	M12	CW 22-8-2007 Wed 1940 (FN) 303 1 726 157
10416	XPA	AM 7-8-2007 2000 (MUK) 426 426 1
10416.0	XPA	AM 3-8-2007 Fri 2000 (HFD) msg
10416.0	XPA	AM 7-8-2007 Tue 2000 (HFD) msg
10426.0	E03	USB 20-8-2007 Mon 2200 (GS) In Progress
10429	M03c	CW 20-8-2007 Mon 1600 (FN) 883/10 == 15191 09335...
10429	M03e	CW 27-8-2007 Mon 1600 (FN) 886/71 == 33333 13525 ...ends: 33333 00071 00071 == 000
10446	M08	CW 30-8-2007 1109 (MPJ) In traffic ... DIANT AUTAT ... ITGRW DIURG AR AR AR IRWTR (rptd)
10469	M12	CW 27-8-2007 Mon 1340 (FN) 303 1 777 189

10504	E07	AM 5-8-2007 1740 (MUK) 305 1 839 65
10504.0	E07	AM 5-8-2007 Sun 1740 (HFD) 305:1-839/65=30506
10540	G06	AM 7-8-2007 1920 (RiN) 308 729 141 13469 etc, ends 00000
10540.0	G06	AM 6-8-2007 Mon 1900 (HFD) 308-729/141=13465
10651	M51	CW 21-8-2007 1021 (MPJ) French Mil. St Val/'rien. = NR 77 A 1612:22:25 1984 BT OWLGT INLBK ...
10653	X06	AM 24-8-2007 0750 (JS3) Mazielka: Sequence: 356412
10752.0	E07	AM 2-8-2007 Thu 2010 (HFD) 716/0
10752.0	E07	AM 30-8-2007 Thu 2010 (HFD) 716/0
10753.0	E07	AM 16-8-2007 Thu 2010 (HFD) 716/0
10830	E06	AM 8-8-2007 1400 (RiN) 857 304 129 29429 etc
10830	E06	AM 23-8-2007 Thu 1400 (FN) 857 304 129 rpt of 22.8. 1500z
10830.0	E06	AM 8-8-2007 Wed 1400 (HFD) 857-304/129=29429
10860	M51	CW 21-8-2007 1021 (MPJ) French Mil. St Val/'rien. = NR 77 A 1612:22:25 1984 BT OWLGT INLBK ...
10871.7	MX	CW 29-7-2007 1940 (MPJ) D Beacon
10871.7	MX	CW 9-8-2007 1711 (MPJ) D Beacon
10871.7	MX	CW 17-8-2007 0930 (QT) Cluster beacon "D"
10872	MX	CW 29-7-2007 1940 (MPJ) C Beacon
10872	MX	CW 9-8-2007 1711 (MPJ) C Beacon
10872	MX	CW 17-8-2007 0932 (QT) Cluster beacon "C"
11022	X06	AM 18-7-2007 1847 (LDO) Dep. of State Comms Moscow calling unlocated embassy using 6-tone alerting device
11107.0	M03	CW 11-8-2007 Sat 1715 (HFD) 512/00
11118.0	XPA	AM 14-8-2007 Tue 0620 (HFD) msg
11163.0	E07	AM 6-8-2007 Mon 2000 (HFD)

		213:1-519/24=30130, //12218, 9344
11163.0	E07	AM 6-8-2007 Mon 2020 (HFD) 213:1-519/24=30130
11438	X06	AM 24-8-2007 0744 (JS3) Mazielka. Sequence: 532614
11450	X06	AM 17-8-2007 1400 (JS3) Mazielka. Sequence: 213546
11486	E11b	AM 9-8-2007 0715 (MUK) 385 32 77777 77777 53943 99942 etc
11491	M12	CW 21-8-2007 Tue 1640 (FN) 725 1 3609 68
11545.0	E03	USB 1-8-2007 Wed 2000 (GS) In Progress
11545.0	E03	USB 2-8-2007 Thu 2000 (GS) 06809
11545.0	E03	USB 3-8-2007 Fri 1700 (GS) 96066
11545.0	E03	USB 3-8-2007 Fri 1900 (GS) 35174
11545.0	E03	USB 3-8-2007 Fri 2000 (GS) 38838
11545.0	E03	USB 3-8-2007 Fri 2100 (GS) 08609
11545.0	E03	USB 20-8-2007 Mon 2200 (GS) In Progress
11830.0	S06	AM 29-8-2007 Wed 0745 (HFD) 745-216/8=55485
12087	M12	CW 22-8-2007 Wed 1920 (FN) 303 1 726 157
12088	E07	AM 5-8-2007 1720 (MUK) 305 1 839 65
12088.0	E07	AM 5-8-2007 Sun 1720 (HFD) 305:1-839/65=30506
12115	X06	AM 9-8-2007 1010 (JS3) Message for "895"
12118.0	XPA	AM 14-8-2007 Tue 0640 (HFD) msg
12180.0	V02a	AM 1-8-2007 Wed 0002 (KDC) in prog.
12188	M12	CW 27-8-2007 Mon 1320 (FN) 303 1 777 189
12189	M12	CW 21-8-2007 Tue 1620 (FN) 725 1 3609 68
12190.0	E06	AM 1-8-2007 Wed 1405 (HFD) 457
12190.0	S06	AM 7-8-2007 Tue 1730 (HFD) 980 weak
12190.0	S06	AM 8-8-2007 Wed 1730 (HFD)

		980-347/62=14737
12202	M03	CW 23-8-2007 Thu 0845 (FN) 503/00
12202	M03	CW 30-8-2007 Thu 0845 (FN) 503/89 == 93442 42792 .. long msg, same GC as E11 today
12205	M24	CW 30-8-2007 Thu 0800 (FN) 742 598 173
12210	M24	CW 16-8-2008 0800 (RiN) 742 386 119 - 37702 89971 etc
12210.0	M24	CW 24-8-2007 Fri 0800 (HFD) 742/0
12210.0	M24	CW 30-8-2007 Thu 0800 (HFD) 742
12218	X06	AM 9-8-2007 0756 (RiN) Mazielka. Sequence: 121212
12218.0	E07	AM 6-8-2007 Mon 2000 (HFD) 213:1-519/24=30130, //11163, 9344
12224	X06	AM 9-8-2007 1323 (PUK) Mazielka.
12224	X06	AM 15-8-2007 0729 (JS3) Mazielka.
12224	X06	AM 15-8-2007 1544 (PUK) Mazielka. Sequence: 463125
12224	X06	AM 16-8-2007 1444 (PUK) Mazielka. Sequence: 463125
12229.0	E11	AM 21-8-2007 Tue 1115 (HFD) 193/00
12603	E03	USB 9-8-2007 1816 (ML4) Linc Poacher
12603.0	E03	USB 1-8-2007 Wed 2200 (GS) In Progress
12603.0	E03	USB 2-8-2007 Thu 2200 (GS) 36305
12603.0	E03	USB 3-8-2007 Fri 1605 (SWK) in progress
13375.0	E03	USB 3-8-2007 Fri 1700 (GS) 96066
13386	M12	CW 21-8-2007 Tue 1600 (FN) 725 1 3609 68
13387	M12	CW 22-8-2007 Wed 1900 (FN) 303 1 726 157
13388.0	E07	AM 5-8-2007 Sun 1700 (HFD) 305:1-839/65=30506
13424	E11	AM 27-8-2007 Mon 1550 (FN) 772/10 attn 98797 03458 ...
13424	M03e	CW 22-8-2007 Wed 1800 (FN) repeat of 1300z on 13908
13424	M03e	CW 27-8-2007 Mon 1130 (FN)

		886/71 == 33333 35535 ... ends: 33333 00071 00071 == 000
13424	M03e	CW 27-8-2007 Mon 1800 (FN)
		886/71 == 33333 13525 ...ends: 33333 00071 00071 == 000
13465	X06	AM 18-7-2007 1844 (LDO)
		Dep. of State Comms Moscow calling unlocated embassy using 6-tone alerting device
13527.7	MX	CW 17-8-2007 0900 (QT)
		Cluster beacon "D"
13528	MX	CW 17-8-2007 0900 (QT)
		Cluster beacon "C"
13528.4	MX	CW 17-8-2007 0907 (QT)
		Cluster beacon "M"
13528.4	MX	CW 17-8-2007 1416 (AB)
		Cluster beacon "M"
13528.4	MX	CW 23-8-2007 1345 (AB)
		Cluster beacon "M"
13837.0	V07	AM 14-8-2007 Tue 0600 (HFD)
		only carrier
13837.0	V07	AM 21-8-2007 Tue 0600 (HFD)
		896/0
13854	X06	AM 24-8-2007 1052 (JS3)
		Mazielka. Sequence: 521634 (came from 14419)
13908	M03e	CW 22-8-2007 Wed 1300 (FN)
		886/71 00 33333 13525 33333 00071 00071 == 000
14392	X06	AM 24-8-2007 0750 (JS3)
		Mazielka. Sequence: 532614
14419	X06	AM 24-8-2007 1045 (JS3)
		Mazielka. Sequence: 521634 (moved to 13854)
14462	M12	CW 27-8-2007 Mon 1300 (FN)
		303 1 777 189
14487	E03	AM 17-8-2007 1800 (MUK)
		Linc Poacher 29802
14530	M42	RTTY 50Bd/500Hz 3-8-2007 0900 (LDO)
		Dep. of State Comms Moscow. Rptg VMGTCNJ-BH (erect & inv.) when decoded with 5-bit/ITA-2/no startbit/no stopbit
14560.0	S06	AM 8-8-2007 Wed 1630 (HFD)
		980-347/62=14737
14580	S06	AM 1-8-2007 0800 (PoRus)
		729 729 729 814 814 5 5 44253 36414 55682 57460 85962 814 814 5 5 000
14580	S06	AM 29-8-2007 0700 (MUK)
		729 814 5 44253 36414 55682 59460 85962 814 5 00000
14580.0	S06	AM 1-8-2007 Wed 0800
		"Russian Lady" with short message for "729", end - slow "0 0 0 0 0".
14820	M24	CW 23-8-2007 Thu 0925 (FN)
		ip, ends at 0930z: == 650 650 197 197 00000
14820	M24	CW 30-8-2007 Thu 0900 (FN)

		742 598 173
14820	M24	CW 16-8-2008 0900 (RiN) 742 386 119 - 37702 89971 etc
14820.0	M24	CW 30-8-2007 Thu 0900 (HFD) 742
14937.0	V07	AM 14-8-2007 Tue 0620 (HFD) only carrier
14975	M03e	CW 27-8-2007 Mon 0630 (FN) 886/71 == 33333 35535 ... ends: 33333 00071 00071 == 000
15682.0	E03	USB 3-8-2007 Fri 1900 (GS) 35174
16005.0	M03	CW 6-8-2007 Mon 0715 (HFD) 889/37=77777 77777 13038
16084.0	E03	USB 3-8-2007 Fri 1700 (GS) 96066
16178.5	M42	CROWD-36 21-8-2007 0537 (EW) Dept of State Communications Moscow. Offline crypto after 11177
16331.7	MX	CW 17-8-2007 0915 (QT) Cluster beacon "D"
16331.9	MX	CW 17-8-2007 0914 (QT) Cluster beacon "S"
16331.9	MX	CW 20-8-2007 1527 (SW2) D Beacon
16475.0	E03	USB 29-8-2007 Wed 1704 (RCh) Poor reception
17436	V02a	AM 2-8-2007 1701 (N2UHC) 04687 76185 74216 callup & msgs, rpt of 1600 sked
17436	V02a	AM 3-8-2007 1700 (N2UHC) YL/SS 63300 18242 41374 callup & 5F msgs, rpt of 1600 sked on 17478
17436	V02a	AM 23-8-2007 1701 (N2UHC) YL/SS 36751 38288 11234 callup & msgs
17436.0	V02a	AM 5-8-2007 Sun 1700 (MS) A 25806 46466 26135 (YL/SS. New format. Repeat of 1600z on 17478m.)
17436.0	V02a	AM 10-8-2007 Fri 1700 (MS) A 54871 36368 16838 (YL/SS. New format. Repeat of 1600z on 17478m.)
17436.0	V02a	AM 10-8-2007 Fri 1700 (MS) A 12231 36078 67648 (YL/SS. New format. Repeat of 1600z on 17478m.)
17436.0	V02a	AM 12-8-2007 Sun 1700 (MS) A 50217 62637 31322 (YL/SS. New format. Repeat of 1600z on 17478m.)
17436.0	V02a	AM 19-8-2007 Sun 1700 (MS) A 03317 11667 67405 (YL/SS. New format. Repeat of 1600z on 17478m.)

17436.0	V02a	AM 23-8-2007 Thu 1700 (MS) A 36751 38288 11234 (YL/SS. New format.)
17436.0	V02a	AM 25-8-2007 Sat 1700 (Jon-FL) A 43784 65365 05752 (new voice)
17436.0	V02a	AM 26-8-2007 Sun 1700 (MS) A 83951 71680 84775 (YL/SS. New format. Repeat of 1600z on 17478m.)
17478	V02a	AM 2-8-2007 1602 (N2UHC) 04687 76185 74216 callup & msgs
17478	V02a	AM 3-8-2007 1601 (N2UHC) YL/SS 63300 18242 41374 callup & 5F msgs
17478.0	V02a	AM 5-8-2007 Sun 1600 (MS) A 25806 46466 26135 (YL/SS. New format.)
17478.0	V02a	AM 10-8-2007 Fri 1600 (MS) A 12231 36078 67648 (YL/SS. New format.)
17478.0	V02a	AM 10-8-2007 Fri 1600 (MS) A 54871 36368 16838 (YL/SS. New format.)
17478.0	V02a	AM 12-8-2007 Sun 1600 (MS) A ----- 62637 31322 (YL/SS. New format. Late start, came up in progress.)
17478.0	V02a	AM 19-8-2007 Sun 1600 (MS) A 03317 11667 67405 (YL/SS. New format. Up late at 1603z.)
17478.0	V02a	AM 26-8-2007 Sun 1600 (MS) A 83951 71680 84775 (YL/SS. New format.)
17480.0	V02a	AM 1-8-2007 Wed 1621 (BD2) SS YL 5 digit grps very strong sig. ended with FINAL x3
18864	E03a	AM 8-8-2007 1100 (MUK) 52503 77995 66118 etc.
20047.9	MX	CW 17-8-2007 0937 (QT) Cluster beacon "S"
20610	E03a	USB 24-8-2007 0740 (EW) Cherry Ripe. Off at 0745 with Cherry Ripe tune. New Frequency?

* CONTRIBUTORS *

AB	Ary Boender, Netherlands
AgBr	Agressor, Brazil
AVX	AlphaVax, Germany
BCI	Bruno Casula, Italy
BD2	Bob Doyle, NJ, USA
EB	Eddie Bellerby, UK
EW	Eddy Waters, Australia

FMB	FMB, Germany
FN	Fritz Nusser, Switzerland
GS	Gary Seven, NY, USA
HFD	Hans-Friedrich Dumrese, Germany
IW	Ian Wraith, UK (via E2K)
Jon-FL	Jon, FL, USA
JS3	Jochen Schaefer, Germany
KDC	Kurt, DC, USA
LDO	Leif Dehio, Germany
ML4	Michel Lacroix, France
MPJ	Jim, W. Europe
MrDXer	via Rommele, Sweden
MS	Mark Slaten, MI, USA
MT2	Mark Taylor, WI, USA
MUK	Mikesndbs, UK
N2UHC	N2UHC
PoRus	Poacher, Russia
PP	Peter Poelstra, Netherlands
PUK	Peter, UK (via Enigma 2000)
QT	Quirino Tirelli, Italy
RCh	Robert Church, NY, USA
RiN	Richard Ness, UK
SW2	Sam Wright, UK
SWK	Scarp Walker, Kuwait
Vambo	Vambo, CO, USA
WES	Westt1us, USA
ZL4ND	ZL4ND, New Zealand

If you wish to be fully credited with your logs and/or information please let me know, otherwise I will only mention your initials or first name.

Portions of this newsletter may be used in electronic or printed hobby bulletins without prior approval so long as "Numbers & Oddities" is credited as the source. This newsletter may NOT be utilized, partly or wholly, in any other COMMERCIAL media format without the written permission of the Editor. Any breach of this may result in action under international copyright legislation.

Relevant mailing lists:

- Utility DXers Forum (utility and spooks related logs).
Go to <http://groups.yahoo.com/group/udxf/> and follow the instructions.
Website: <http://www.udxf.nl>
- Spooks (spooks related info and logs)
Go to the web interface to subscribe, fill in the form and follow the

instructions that will be mailed to you.
<http://mailman.qth.net/mailman/listinfo/spooks>

-0-0-0-0-KONEC-0-0-0-0-